

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-44 (canceled)

Claim 45 (previously presented): Apparatus for amplifying an optical signal, said apparatus comprising:

a pump system disposed to inject optical pump energy into a first end of a first fiber segment so as to counter-propagate relative to an optical signal traversing said first fiber segment and a second fiber segment; and

an optical filter structure coupled to a second end of said first fiber segment and a first end of said second fiber segment; and

wherein said optical signal propagates through said optical filter structure from said second fiber segment to said first fiber segment, said optical pump energy propagates through said optical filter structure from said first fiber segment to said second fiber segment, and said optical filter structure substantially blocks energy at frequencies about an optical pump energy frequency, including a frequency of said optical signal, from traveling from said first fiber segment into said second fiber segment so that Raman amplification is induced in said first fiber segment and said second fiber segment and double Rayleigh backscattering effects are ameliorated.

Claim 46 (previously presented): Apparatus for amplifying an optical signal, said apparatus comprising:

a pump system disposed to inject optical pump energy into a first end of a first fiber segment so as to counter-propagate relative to an optical signal traversing said first fiber segment and a second fiber segment; and

an optical filter structure coupled to a second end of said first fiber segment and a first end of said second fiber segment, said optical filter structure further comprising:

*entry approved
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[signature]*

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